WHAT IS CLAIMED IS:

1. A coke drum bottom head removal system for removing the bottom head cover of a coke drum, wherein the bottom head cover is coupled by fasteners to a bottom head flange, the coke drum bottom head removal system comprising:

a cart that is positionable beneath the bottom head cover and which can be moved vertically between a raised position and a lowered position;

a plurality of clamps mounted on the cart, each clamp comprising an upper clamping surface adapted for engagement with the bottom head flange and a lower clamping surface adapted for engagement with the bottom head cover, wherein each clamp has a closed position, in which the clamping surfaces apply a compressive force that maintains a substantially fluid tight engagement between the bottom head flange and the bottom head cover upon removal of the fasteners, and an opened position, in which the clamping surfaces are moved apart to permit a limited spacing between the bottom head flange and the bottom head cover when the fasteners are removed;

a plurality of supports mounted on the cart that are adapted to support the bottom head cover when the fasteners are removed and the clamps are in the opened position; and

a controller connected to the clamps and adapted to be operated from a remote location for controlling operation of the clamps.

2. The coke drum bottom head removal system of Claim 1, further comprising a carriage on which the cart is mounted, wherein the carriage is suspended by a plurality of trolleys from a pair of overhead tracks positioned along opposite sides of the bottom head cover.

3. The coke drum bottom head removal system of Claim 2, wherein the trolleys are pneumatically actuated via the controller to position the carriage beneath the bottom head cover.

4. The coke drum bottom head removal system of Claim 1, wherein the cart is suspended from an upper portion of the carriage by a plurality of hoists.

5. The coke drum bottom head removal system of Claim 4, wherein the hoists are pneumatically actuated via the controller to position the cart between the

raised position and the lowered position, as well as a plurality of intermediate positions between the raised and lowered positions.

6. The coke drum bottom head removal system of Claim 1, wherein each clamp is vertically mounted to the cart by a rotatable shaft and a rotary actuator.

7. The coke drum bottom head removal system of Claim 6, wherein each rotary actuator is pneumatically actuated via the controller to rotate each clamp between an engaged position, in which the bottom head cover and the bottom head flange are between the clamping surfaces, and a disengaged position, in which the bottom head cover and the bottom head flange are not between the clamping surfaces, and wherein the clamp can be actuated via the controller for rotation between the engaged position and the disengaged position.

8. The coke drum bottom head removal system of Claim 1, wherein the clamps are coupled to at least one hydraulic pump which produces the compressive force applied by the clamping surfaces.

9. The coke drum bottom head removal system of Claim 8, wherein the upper clamping surface comprises a fixed jaw and the lower clamping surface comprises a moveable ram.

10. The coke drum bottom head removal system of Claim 8, wherein the controller comprises a control panel coupled to the at least one hydraulic pump to remotely adjust the hydraulic pressure applied to the clamps.

11. A coke drum bottom head removal system for removing the bottom head cover of a coke drum, wherein the bottom head cover is coupled by fasteners to a bottom head flange, the coke drum bottom head removal system comprising:

a carriage that is positionable beneath the bottom head cover;

a cart mounted on the carriage, wherein the cart is adapted to be moved vertically between a raised position and a lowered position;

a plurality of clamps mounted on the cart, each clamp comprising a jaw adapted for engagement with the bottom head flange and a moveable ram adapted for engagement with the bottom head cover, wherein each clamp has a closed position, in which the ram is extended to apply a compressive force that maintains a substantially fluid tight engagement between the bottom head flange

and the bottom head cover upon removal of the fasteners, and an opened position, in which the ram is retracted to permit a limited spacing between the bottom head flange and the bottom head cover when the fasteners are removed;

a plurality of supports mounted on the cart that are adapted to support the bottom head cover when the fasteners are removed and the clamps are in the opened position; and

a controller connected to the clamps and adapted to control the operation of the clamps from a remote location.

12. A method of removing a bottom head cover attached by fasteners to a bottom head flange of a coke drum, comprising:

applying a compressive force to the bottom head cover and the bottom head flange to maintain a substantially fluid tight engagement between them;

removing the fasteners that attach the bottom head cover to the bottom head flange;

reducing the compressive force to allow the bottom head cover to be lowered a limited distance with respect to the bottom head flange;

supporting the bottom head cover with respect to the bottom head flange;

releasing substantially all compressive force; and

removing the bottom head cover.

13. A method of removing a bottom head cover attached by fasteners to a bottom head flange of a coke drum, comprising:

removing a limited number of the fasteners to expose fastener holes in the bottom head cover and the bottom head flange;

partially inserting elongated supports through a plurality of the fastener holes, wherein each support has a support surface spaced below the bottom head cover;

applying a compressive force to the bottom head cover and the bottom head flange to maintain a substantially fluid tight engagement between them;

removing the remaining fasteners;

reducing the compressive force from a remote location to allow the bottom head cover to be lowered onto the support surface of each support, to

thereby space the bottom head cover a limited distance with respect to the bottom head flange; and

transporting the bottom head cover away from the bottom head flange.

14. A method of removing a bottom head cover attached by fasteners to a bottom head flange of a coke drum utilizing a carriage, a cart mounted on the carriage, a plurality of clamps mounted on the cart, each clamp comprising an upper clamping surface adapted for engagement with the bottom head flange and a lower clamping surface adapted for engagement with the bottom head cover, wherein each clamp has a closed position, in which the clamping surfaces apply a compressive force that maintains a substantially fluid tight engagement between the bottom head flange and the bottom head cover upon removal of the fasteners, and an opened position, in which the clamping surfaces are moved apart to permit a limited spacing between the bottom head flange and the bottom head cover when the fasteners are removed, and a plurality of supports on the cart that support the bottom head cover once the fasteners are removed, the method comprising:

positioning the carriage beneath the bottom head cover;

moving the cart to a raised position;

positioning the clamps in the closed position;

removing fasteners coupling the bottom head cover to the bottom head flange;

positioning the clamps in the opened position;

lowering the bottom head cover onto the plurality of supports; and

removing the bottom head cover.

15. The method of Claim 14, wherein the compressive force is applied by a plurality of hydraulically actuated clamps.

16. The method of Claim 14, wherein the compressive force clamping the bottom head cover against the bottom head flange is applied substantially symmetrically.

17. The method of Claim 14, wherein the bottom head cover is lowered onto the plurality of supports by remotely adjusting a hydraulic pressure applied to the plurality of clamps.